

Dr. Mehmet Burak KAYNAR

Physics Engineer

*Hacettepe Uni. Physic Engineering Dept.
SNTG Lab. Beytepe, Ankara Turkey*

Tel: +90 536 251 1158

Fax: +90 312 299 20 37

e-mail: bkaynar@hacettepe.edu.tr

Web: <http://aes.hacettepe.edu.tr/bkaynar>
<http://yunus.hacettepe.edu.tr/~bkaynar/>



ResearcherID Profile 

LinkedIn Profile 

Academia.edu Profile 

ORCID Profile 

Reserch Gate Profile 

Personal Information

Date of Birth July 1981

Place of Birth Ankara, Turkey

Nationality Turkish Republic

Languages English (good), Turkish (native)

Professional Experience

Research Assistant (2007-...): Hacettepe University Department of Physic Engineering Beytepe Campus Ankara, Turkey

Research Scholar (August 2010 – August 2011): University of Delaware Material Science and Engineering Department, Newark DE, USA

Fellowships / Awards

- Hacettepe University Technology Transfer Center Bigg Hamle Innovation Contest “Third Prize” at “Advanced technologies” area with the project; “*High Efficient Atmospheric Water Collecting System*”
- TUBITAK (Scientific and Technological Research Council of Turkey) 2214 Abroad Research scholarship for PhD. students (1 year)

Work Summery

<i>Publications/Presentations*</i>	SCI	International	National	Total
Papers	8			8
Invited Talk		1	-	1
Oral Presentation		12	3	15
Poster Presentation		5	4	9

<i>Projects**</i>	Executive Researcher	Researcher	Total
Tubitak	-	1	1
University	2	1	3

* Listed at page 4-6 (except nationals)

** Listed at page 4,

Education

PhD. (2014) in Physics Engineering,

Department of Physics Engineering Hacettepe University
“INVESTIGATION OF MICROWAVE ABSORPTION
PROPERTIES OF FERRITE BASE NANOCOMPOSITES”

M.Sc. (2007) in Physics Engineering,

Department of Physics Engineering Hacettepe University
“SYNTHESIS AND EXAMINING OF PHYSICAL PROPERTIES
OF METAL-FERRITE NANOPARTICLES”

B.Sc. (2004) in Physics Engineering,

Department of Physics Engineering Hacettepe University
“CURRENT DEPENDENCE OF THE CRITICAL TEMPERATURE
(T_c) OF YBaCuO SUPERCONDUCTOR THIN FILMS PREPARED
BY SPUTTERING”

Scientific Experiences

Material Science:	Metal-Ferrite Nanoparticles, Oxide Nanoparticles, Magnetic Materials, Superconductors, Nano-Porous Structures, Microwave Absorption, Hyperthermia, Ceramic filters, Water Purification, Hydrogen generation by water-metal reactions	
Material preparation:	Solid state thermal reactions	
	Sol-gel and thermal decomposition	
	Ball-milling	
	Thermal and laser evaporation	
	Sputtering	
	Spray Coating	
	Electrospinning	
Material characterization:	Structural analysis:	X-ray powder diffraction (XRD) ^{1,2} , Rietveld Analysis
		X-ray photo electron microscopy (XPS) ^{1,2}
		Thermo gravimetric and Differential Thermal Analysis (TG/DTA) ¹
	Magnetic characterization:	Vibrating sample magnetometer (VSM) ^{1,2}
		AC susceptibility measurements ^{1,2}
		Torque magnetometer ^{1,2}
	Imaging:	Transmission electron microscopy (TEM) ¹
		Scanning Electron Microscopy (SEM) ¹
	Electrical characterization:	Resistivity and magneto resistivity measurements ^{1,2}
		Temperature dependent resistivity measurements ^{1,2}
		Van der Pauw measurements, volume and sheet resistivity ^{1,2}
		Hall coefficient measurement ^{1,2}
	Microwave Measurement:	S parameter measurement ¹
		Absorption measurement with Coaxial line method ¹
		Absorption measurement with transmission line method ¹
	Thermal characterization:	Heat capacity measurement ^{1,2}
		Thermal conductivity measurement ^{1,2}
		Seebeck coefficient and figure of merit measurements ^{1,2}
Experimental systems and design:	Quantum design PPMS ^{1,2}	
	Vector Network Analyzers ¹	
	Vacuum systems; design and control ^{1,2}	
	Cryogenic systems; low temperature measurement system design, Close-cycle and Continuous-flow cryostats ^{1,2}	
	Computer controlled systems; GPIB interface and programming ^{1,2}	
	Low and high temperature control ^{1,2}	
<p><i>1; I have experience as a user</i></p> <p><i>2; I have experience on design, maintenance and/or repair of the system</i></p>		

Project Experiences

As Executive Researcher

Hacettepe University Scientific Research Project “Nano porous water filter developing” (2017-...)

Hacettepe University Scientific Research Project “Preparation of high efficient water condenser surfaces by using spray coating technique” (2015-2016)

As Researcher

Hacettepe University Scientific Research Project “Synthesis of Metal-ferrite nanoparticles via mechanical milling technique” (2010-2014)

TUBİTAK 1001 Research Project “Synthesis and characterization of γ -Fe₂O₃ Nanoparticles” (2005-2007)

Publications (Listed in SCI)

Gökhan Ünlü, Emre Tanış, **M. Burak Kaynar**, Telem Ünsal, Şadan Özcan Magnetocaloric effect in La_{0.7}Nd_xBa_(0.3-x)MnO₃ (x = 0, 0.05, 0.1) perovskite manganites J Alloys and Comp 704 (2017) 58-63

M. Eroğlu, H. G. Demirkıran, İ. A. Koçyiğit, H. Bilgili, **M. B. Kaynar**, A. Bümin, Ş. Özcan, M. Yazıcı, Magnetic Resonance Imaging Safety of Magnetically Controlled Growing Rods in an In vivo Animal Model, Spine 42 (2017) E504–E508

Çağkan Piyan, Telem Şimşek, **M. Burak Kaynar**, Şadan Özcan, Fabrication and Magnetic Properties of Mn_xB₄₅Co_{100-x} Alloys, J Supercond Nov Magn 29 (2016) 2203

M. Burak Kaynar, Şadan Özcan, S. Ismat Shah, Synthesis and magnetic properties of nanocrystalline BaFe₁₂O₁₉, Ceramics Int. Volume 41, Issue 9, Part A, November 2015, Pages 11257-11263

M. Burak Kaynar, Ryan DelPercio, Emre Yassitepe, Sadan Ozcan, S. Ismat Shah Solvent free fabrication of nanoporous TiO₂ filters using organic–inorganic nanocomposites Powder Tec. Volume 233, January 2013, Pages 331–334

M. Hafeez, U. Manzoor, A. S. Bhatti, **M. Burak Kaynar**, S. Ismat Shah Catalyst solubility and self-doping in ZnS nanostructures, Journal of Applied Physics 111, 024313 (2012)

Ali Ekber Irmak, Atilla Coskun, Ergun Tasarkuyu, Selcuk Akturk, Gokhan Unlu, Yusuf Samancioglu, Cengiz Sarikurkcü, **Burak M. Kaynar**, Atila Yucel, The influence of the sintering temperature on the structural and the magnetic properties of doped manganites: $\text{La}_{0.95}\text{Ag}_{0.05}\text{MnO}_3$ and $\text{La}_{0.75}\text{Ag}_{0.25}\text{MnO}_3$, Journal of Magnetism and Magnetic Materials 322 (2010) 945–951,

Sadan Ozcan, **Burak Kaynar**, Musa Mutlu Can, Tezer Firat, Synthesis of ZnFe_2O_4 from metallic zinc and iron by wet-milling process, Material Science and Engineering B Volume 121 Issue 3 15 August 2005

Presentations (At International Conferences)

Invited Presentations

- Nd and Gd doped barium-ferrite nanostructures with high magnetic coercivity for microwave absorption enhancement
Mehmet Burak Kaynar, Şadan Özcan
9th International Conference on Magnetic and Superconducting Materials 2015

Oral Presentations

1. High Porous Coating for Enhanced Water Condensation
Mehmet Burak Kaynar, Ismat Shah
5th Int. Conference on Multifunctional, Hybrid and Nanomaterials March 2017
2. ITO/Silver Nanocomposite defroster Coating for Aircrafts,
Mehmet Burak Kaynar, Şadan Özcan,
32th Physics Congress Turkish Physics Society September 2016
3. Effect of Zinc Edition on Magnetic Properties of Cobalt-ferrite Nanostructures
Mehmet Burak Kaynar, Ahmet Serhat Dinçer, Şadan Özcan,
32th Physics Congress Turkish Physics Society September 2016
4. Synthesis and I-V Characterisation of ZnO Nanorods
Ahmet Serhat Dinçer, **Mehmet Burak Kaynar**, Abdullah Ceylan, Şadan Özcan,
32th Physics Congress Turkish Physics Society September 2016
5. Fabrication and Magnetic Properties of $\text{Mn}_{100-x}\text{B}_{45}\text{Cu}_x$ Bulk Alloys
Ibrahim Yavuz, **Mehmet Burak Kaynar**, Telem Unsal, Abdullah Ceylan, Ş. Özcan
32th Physics Congress Turkish Physics Society September 2016
6. Hydrogen Storage in Magnesium Borohydride for Renewable Energy
Gözde Beyazıt, **Mehmet Burak Kaynar**, Şadan Özcan
32th Physics Congress Turkish Physics Society September 2016
7. Hydrogen Storage For The Renewable Energy Systems

Gözde Beyazıt, Buğra Yaşar, **Mehmet Burak Kaynar**, Şadan Özcan,
International Workshop on Special Topics on Polymeric Composites 2016

8. Magnetic Properties of Neodymium and Gadolinium Doped Barium-Ferrite Nanostructures
Mehmet Burak Kaynar, Şadan Özcan, S. Ismat Shah,
9th International Physics Conference of the Balkan Physical Union 2015
9. High surface area Coating for Water Condensation System
Mehmet Burak Kaynar, S. Ismat Shah,
9th International Physics Conference of the Balkan Physical Union 2015
10. Microwave absorption properties of BaGdxFe12-xO19 nanoparticles synthesized by wet milling process
Mehmet Burak Kaynar, Şadan Ozcan, Ismat Shah,
APS March Meeting 2013
11. Anomalous blocking temperatures of mechanically activated ZnFe2O4 nanoparticles
Burak Kaynar, S.Ozcan, T.Firat,
Condensed Matter Physics Conference of Balkan Countries 26 - 28 May 2008
12. Synthesis and Magnetic Properties of ZnFe2O4 Nanoparticles
Burak Kaynar, S.Ozcan, T. Fırat
10th International Symposium on Advanced Materials 3-7 September 2007

Poster Presentations

1. Effect of Nichel Addition on Hydrogen Generation Rate of Water Spliting Reaction Induced by Wet-milling Method,
Buğra Yaşar, **M. B. Kaynar**, Ş. Özcan,
9th International Physics Conference of the Balkan Physical Union 2015
2. Synthesis of MnxCo1-xFe2O4 Nanoparticles By wet-milling,
A. S. Dinçer, E. Oruç, B, Yaşar, G, Bayazıt, **M.B. Kaynar**, A. Ceylan, Ş. Özcan,
9th International Physics Conference of the Balkan Physical Union 2015
3. Effect of Annealing Time on Structural and Magnetic Properties of Mn0.4Co0.6Fe2O4 Nanostructures synthesized by wet-milling,
E. Oruç, B, Yaşar, A. S. Dinçer, I. Yavuz, **M.B. Kaynar**, A. Ceylan, Ş. Özcan,
9th International Physics Conference of the Balkan Physical Union 2015
4. Fabrication of nanoporous TiO2 filters using organic--inorganic nanocomposites,
M. Burak Kaynar, Ryan DelPercio, Emre Yassitepe, Sadan Özcan, S. İsmat Shah
APS March Meeting 2013
5. High Surface Area Nanoporous TiO2 Coating for Effective Water Condensation,
M. Burak Kaynar, Mark Mcgarity, Emre Yassitepe, S. Ismat Dhah,
APS March Meeting 2013

References

Prof. Dr. Ismat Shah University of Delaware Material Science and Engineering Newark DE
ismat@udel.edu, +1 302 831 1618

Prof. Dr. Sadan Ozcan Hacettepe University Physics Engineering Dept. Ankara Turkey
sadan@hacettepe.edu.tr, +90 533 929 8412

Prof. Dr. Tezer Firat Hacettepe University Physics Engineering Dept. Ankara Turkey
firat@hacettepe.edu.tr, +90 532 476 5902